



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,942	01/05/2004	Ho-Cheol Lee	8956-000107/US	2065
30593	7590	10/20/2004	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C.			FENTY, JESSE A	
P.O. BOX 8910			ART UNIT	
RESTON, VA 20195			PAPER NUMBER	

2815

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<p>Application No.</p> <p>10/750,942</p>	<p>Applicant(s)</p> <p>LEE, HO-CHEOL</p>	
	<p>Examiner</p> <p>Jesse A. Fenty</p>	<p>Art Unit</p> <p>2815</p>	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>01/05/04</u>  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al. (U.S. Patent No. 6,121,681).

In re claim 1, Tanaka (Figs, 1, 17) discloses a semiconductor device, comprising:

A semiconductor chip (10) having a memory cell array region (1) and a peripheral circuit region (column 11, lines 43-49). Surrounding the memory cell array region; and

A plurality of bonding pads disposed on only one side of the semiconductor chip on the peripheral circuit region.

In re claim 2, Tanaka discloses the device of claim 1, wherein the plurality of bonding pads are disposed in at least one row.

In re claim 6, Tanaka discloses the device of claim 2, further comprising a plurality of leads (3A) formed over a portion of the semiconductor chip.

In re claim 7, Tanaka discloses the device of claim 6, further comprising a plurality of bonding wires (6) electrically connecting the plurality of leads, respectively, with a portion of the bonding pads.

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka as applied to claim 2 above, and further in view of Torres et al. (U.S. Patent No. 5,962,926).

In re claim 3, Tanaka discloses the device of claim 2, but does not expressly disclose the plurality of bonding pads disposed in two rows. Torres (Fig. 4) discloses bond pads (26) disposed in two rows. It would have been obvious for one skilled in the art at the time of the invention to use the bond pad configuration structure of Torres for the device of Tanaka for the purpose for example, of alleviating the limitations of the prior art single row of bond pads (Torres, column 1, lines 31-33) for the purpose, for example, of saving die area space (column 4, lines 37-40).

In re claim 4, Tanaka in view of Torres discloses the device of claim 3, further comprising a plurality of leads (Tanaka; 3A) formed over a portion of the semiconductor chip.

In re claim 5, Tanaka in view of Torres discloses the device of claim 4, further comprising a plurality of bond wires (Tanaka, 6; Torres, 14) electrically connecting the plurality of leads formed over a portion of the semiconductor chip.

Art Unit: 2815

*Allowable Subject Matter*

5. Claims 8-14 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: In re claim 8, the structure comprising at least a second leads group disposed opposite the first leads group, and a plurality of bonding wires having a first plurality of bonding wires and a second plurality of bonding wires electrically connecting the first leads group and the second leads group, respectively, with the plurality of bonding pads is neither anticipated nor obvious over the prior art of record.


*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse A. Fenty whose telephone number is 571-272-1729. The examiner can normally be reached on 5/4-9 1st Fri. Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 571-272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2815

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jesse A. Fenty  
Examiner  
Art Unit 2815